

DEC. 1948

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REPORT

50X1-HUM

CD NO.

COUNTRY USSR

DATE OF  
INFORMATION 1949

SUBJECT Scientific - Electricity, Electric power

DATE DIST. 7 Aug 1950

HOW  
PUBLISHED Monthly periodical

NO. OF PAGES 3

WHERE  
PUBLISHED MoscowDATE  
PUBLISHED Jan 1950SUPPLEMENT TO  
REPORT NO.

LANGUAGE Russian

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SOURCE Elektrichestvo No 1, 1950.

PAPERS READ AT MOSCOW  
POWER ENGINEERING INSTITUTE IMENI MOLOTOV

V. A. Venikov  
 Cand Tech Sci

In 1949 the NTO of MEI (Scientific-Technical Society of the Moscow Power Engineering Institute) successfully continued its activity.

At the general meeting, the report of the chairman of the Committee on Technical Terminology of the Academy of Sciences, USSR, D. S. Lotte, was heard. It was entitled "Principles of Constructing a System of Scientific and Technical Terms". In the resolution passed on the report, notice was taken of the great importance of work on terminology, and methods were indicated for organizing such work in MEI.

In sessions of the Electrical Systems Section, reports devoted to the results of the International Conference on Electrical Systems were read and discussed.

Doctor of Technical Sciences, Prof Yu. V. Butkevich, in his paper "Problems of Switching Off High-Voltage Electrical Circuits", presented a summary of the contents of papers read at the conference relating to this problem, and paid special attention to the analysis of the break-down of quenching chambers of breakers, which was made at the conference by the Soviet Union delegation.

Doctor of Technical Sciences, Prof. S. M. Bragin, in his paper, "Modern High-Voltage Cable Lines", paid special attention to the operation of cables of 100 kv voltage and above. The speaker showed from the material of the conference that USSR cables lines break down less frequently than similar lines in other countries.

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The report of Prof P. G. Grudinskiy, was devoted to the problem, "Losses of Active Power in Transmitting Reactive Power and How to Lower Them". The speaker gave a detailed account of a simplified procedure for calculating the active power losses and the so-called economic equivalent of reactive power. Furthermore, P. G. Grudinskiy assessed various equipment for improving power factor and critically examined the existing system of tariffs on the payment for electric power.

Professor I. I. Solov'yev read a paper, "The Party Spirit in Teaching the Technical Disciplines in the Higher Technical School." He explained the basic problems of this task, and examined concrete examples occurring in the following courses: "Electrical Networks and Systems"; "Electric Power Stations"; "Relay Protection and Automatization of Electrical Systems."

One of the meetings of the Electrical Systems Section was devoted to discussing the plan for revising a textbook written by a group of authors and edited by Prof A. A. Glazunov, "Electric Power Stations and Substations," with the object of abridging it to require only 45 quires of paper. In a report read by Doctor of Technical Sciences Prof A. A. Glazunov several variations of setting up the textbook were examined.

The report of Engineer N. P. Astakhov entitled, "Wooden Supports for High-Voltage Lines, and Their Operational Reliability," as well as the speeches of specialists present, showed that the permissible voltages for wooden supports, selected in accordance with the recommendations of the Rules for the Installation of Electrotechnical Installations, do not guarantee reliable, prolonged operation of support on lines. The conference elected a commission, which was assigned the task of examining the pertinent paragraphs in the regulations and making recommendations for appropriate changes. The proposals of the commission were then forwarded to the Technical Division of the Ministry of Electric Power Stations.

The paper, "The Life and Activity of R. E. Klasson," was read by Candidate of Technical Sciences, S. A. Ul'yanov, who gave a detailed account of the work of this remarkable engineer and scientist, especially noting his participation in the construction of the first electric transmission line in the world, which was done under the leadership of M. O. Dolivo-Dobrovolskiy.

Doctor of Technical Sciences, Professor A. A. Glazunov, in his report, "Methods for the Technical Development and Reconstruction of Electrical Networks of Large Cities of the Soviet Union," dwelt on basic problems, and especially on the use of 110 and 35 kv feeders. Pointing out that the number of 110 kv feeders is limited, the speaker recommended wider utilization of 35 kv voltage.

In the Theoretical Electrical Engineering Section, Candidate of Technical Sciences R. I. Karayev, read a paper entitled "The High-Power Open Arc." A number of sessions of this section was devoted to discussing future optional courses of the Chair of Theoretical Principles of Electrical Engineering. Doctor of Technical Sciences Professor K. M. Polivanov gave an account of the course "Theory of Circuits," which includes the principles of the theory of circuits, matrix calculation, frequency and amplitude-phase characteristics, and the theory of nonlinear oscillations. Professor V. Yu. Lomonosov critically examined the problem of the course "Field Calculations." Candidate of Technical Sciences Docent A. I. Darevskiy, devoted his speech to the "Electrodynamics" course. Professor K. M. Polivanov proposed the creation of a special inter-faculty group, to include students with advanced knowledge, and orienting this group in the reading of special courses. The section then listened to the paper of K. M. Polivanov, "New Tasks of the Laboratory of Theoretical Principles of Electrical Engineering." This report

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raised the question of creating a third laboratory for the third part of the course of the Principles of Electrical Engineering (Theory of the Field and Non-Stationary Processes).

Candidate of Technical Sciences S. B. Strakhov and Candidate of Technical Sciences A. V. Netushil, spoke during the discussion of the second part of the textbook by P. L. Kalantarov and L. R. Neyman entitled, "Theoretical Principles of Electrical Engineering (Alternating Current)," which took place at the session of this same section.

In the Illumination Engineering Section, Candidate of Technical Sciences, V. I. Lugovskiy, Central Scientific Research Institute of Industrial Structures (TsNIPS) read a paper entitled, "The Problem of Standardizing Luminescent Lighting." He gave an analysis of capital expenditures and operational costs which confirmed the advisability of using luminescent lamps in industrial installations. Candidate of Technical Sciences K. P. Belov, Scientific Research Institute of Railroad Transport (NIIZhDT) read a report "Installation and Operation of Experimental Luminescent Lighting Installations for Railroad Transport."

Candidate of Technical Sciences M. G. Mal'gin, All-Union Electrical Engineering Institute (VEI) read a report entitled, "The Photographic Methods of Investigating the Optical Accuracy of Parabolic Reflectors," giving a detailed account of the methods of Chikolev and Leonov. Doctor of Technical Sciences, Professor N. A. Karyakin, in his paper, "Modern Views on the Nature of the High-Intensity Arc," gave an analysis of various theories and gave an account of the arc theory which he has devised, on which basis new specimens of carbon were presented. Doctor of Technical Sciences Professor L. D. Bel'kind, read a report entitled, "The Centenary of Arc Lighting in Russia," in which he gave much previously unknown historical data. Candidate of Technical Sciences D. A. Shklover (VEI) read a report entitled, "Procedure and Apparatus for Photoelectric Spectrum and Light Measurements". Scientific Collaborator of VEI, V. N. Komissarov, read a report entitled, "Calculation of the Light Beam of a Projector, Taking Account of Lateral Aberrations." He explained an original method of calculation based on the brightness characteristics of a high-intensity arc. Candidate of Technical Sciences, A. I. Gribanov presented a paper on "Modern Methods of Manufacturing Reflectors and Mountings." Candidate of Technical Sciences I. Kh. Zelikman read a report entitled, "Photometry under the Conditions of Low Brightness." In addition, as the session there was a discussion on various problems concerned with the theoretical principles of illumination engineering.

In the Instrument Building Section, a number of papers were read, among them the paper, "Problems of Precision Electro-gyro-automatics," read by Candidate of Technical Sciences L. I. Tkachev; the paper by K. E. Erglis, "The Aphagraph -- A New Instrument for Determining Amplitude-Phase Characteristics of Amplifier Systems," and the paper by Candidate of Technical Sciences, M. I. Levin, "Design of Sensitive Bridges with Nonlinear Elements." At one of the sessions of this section, Candidate of Technical Sciences, S. A. Ginsburg, gave an account of the results of work on "The Design of Nonlinear Bridges." Candidate of Technical Sciences, K. V. Yegorov, gave an account on "Some Russian Work in the Field of Automatic Regulation."

The Electric Machine Building Section listened to the report of Doctor of Technical Sciences Ye. M. Sinel'nikov on "The Construction of a Dynamic Theory on Commutation of DC Electric Machines."

The Scientific and Technical Society of MEI, expanding its work, has organized three new departments: "Mechanical Machine Building," "Physical and Mathematical," and "Social Sciences."

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